



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,293	09/26/2003	Alessandro Grossi	61179-00003USPX	9396

7590 04/10/2006

Andre M. Szuwalski
Jenkins & Gilchrist, P.C.
Suite 3200
1445 Ross Ave
Dallas, TX 75201-2799

EXAMINER

TRAN, TAN N

ART UNIT	PAPER NUMBER
----------	--------------

2826

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

20

Office Action Summary	Application No. 10/672,293	Applicant(s) GROSSI ET AL.	
	Examiner TAN N. TRAN	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 02/06/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 and 32-37 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36 and 37 is/are allowed.
- 6) ☒ Claim(s) 11-22 and 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Minhloan Tran
Minhloan Tran
Primary Examiner
Art Unit 2826

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the discrete resistor having first and second ends to which metal contacts are formed and the delimitation structure defining a width of the discrete resistor between the first and second ends as recited in claim 11,17 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, lines 6,7; claim 17, lines 8,9 “the delimitation structure defining a width of the discrete resistor between the first and second ends” is unclear as to whether it is being referred to the delimitation structure defining a length of the discrete resistor between the first and second ends.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stucchi et al. (6,027,965).

With regard to claims 11-14, Stucchi et al. discloses a semiconductor substrate 10 having at least one active area; at least one discrete resistor 21 obtained within the active area wherein the discrete resistor having first and second ends and made of polycrystalline silicon material; and a delimitation structure 16 set on top of active area as an ion implantation mask to delimit a size and shape of ion implantation which forms the resistive region of the resistor 21, the delimitation structure 16 defining a width of the discrete resistor 21 between the first and second ends. (Note figs. 1-5 of Stucchi et al.). Stucchi et al. discloses all the claimed subject matter except for the ends of the resistor having metal contacts. However, it would have been obvious to one of ordinary skill in the art to form the ends of the resistor having metal contacts in order to secure electrical connection between the resistor and the device. Note, figs. 5,6 of Bhatia et al. (4,464,212) disclose the ends of the resistor 8 having contacts (9,10); and fig. 11 of Chan et al.

Art Unit: 2826

(6,051,440) discloses the ends of the resistor 18 having metal contacts 12, are cited to support for the well-known position.

With regard to claims 15,16 Stucchi et al. discloses protective element (23,31), which extends within the delimitation structure 16 and coats the resistive region of resistor 21 wherein the element 23 of the protective element (23,31) made of dielectric material. (Note figs. 1-5 of Stucchi et al.).

Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stucchi et al. (6,027,965) in view of Leibiger et al. (6,700,474).

With regard to claim 32-35, Stucchi et al. discloses a semiconductor substrate 10 having at least one active area; at least one discrete resistor 21 obtained within the active area wherein the discrete resistor having first and second ends and made of polycrystalline silicon material; and a delimitation structure 16 set on top of active area as an ion implantation mask to delimit a size and shape of ion implantation which forms the resistive region of the resistor 21, the delimitation structure 16 defining a width of the discrete resistor 21 between the first and second ends; a spacer 23 extending between the delimiter structure 16 to cover the discrete resistor 21 formed in the active region but not cover a top surface of the delimiater structure 16 wherein the spacer 23 made of silicon dioxide material. (Note figs. 1-5 of Stucchi et al.). Stucchi et al. discloses all the claimed subject matter except for the ends of the resistor having metal contacts. However, it would have been obvious to one of ordinary skill in the art to form the ends of the resistor having metal contacts in order to secure electrical connection with external device. Note, figs. 5,6 of Bhatia et al. (4,464,212) disclose the ends of the resistor 8 having contacts (9,10); and

Art Unit: 2826

fig. 11 of Chan et al. (6,051,440) discloses the ends of the resistor 18 having metal contacts 12, are cited to support for the well-known position.

Stucchi et al. does not disclose a silicided layer formed on the delimiter structure.

However, Leibiger et al. discloses a silicided layer 16 formed on the delimiter structure (4,6). (figs. 4-6 of Leibiger et al.).

Therefore, it would have been obvious to one of ordinary skill in the art to form the Stucchi et al.'s device having a silicided layer formed on the delimiter structure such as taught by Leibiger et al. in order to reduce the resistance of the delimiter structure.

Allowable Subject Matter

4. Claims 9-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 17-22 are allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as a silicide layer formed over the delimitation structure which does not electrically contact the resistor region as recited in claim 17.

5. Claims 36,37 are allowable over the prior art of record, because none of these references disclose or can be combined to yield the claimed invention such as ~~a silicide layer formed over the delimitation structure which does not electrically contact the resistor region as recited in claim 17, and~~ a silicided layer formed on the polysilicon structure without affecting the pre-set

Art Unit: 2826

resistivity in the active area which does not electrically make contact with the resistive region as recited in claim 36.

Response to Amendment

6. Applicant's arguments with respect to claims 11-22,32-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tan Tran whose telephone number is (571) 272-1923. The examiner can normally be reached on M-F 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TT

Mar 2006